NOAA FY 1999 Budget Request Fact Sheet

Hypoxia in the Gulf of Mexico

The National Oceanic and Atmospheric Administration (NOAA) is requesting a $1.4 million increase in FY 1999 through the National Oceanographic Partnership Program to address the hypoxic "dead zone" in the Gulf of Mexico. This increase supports the President's Natural Disaster Reduction Initiative.

NOAA Budget	FY 1999 Request
NOAA Line Office/(Activity)	$M
National Ocean Service	
(Ocean Assessment Program)	1.0
Oceanic and Atmospheric Research	
(Marine Environmental Research)	0.4
Total	1.4

Understanding the problem

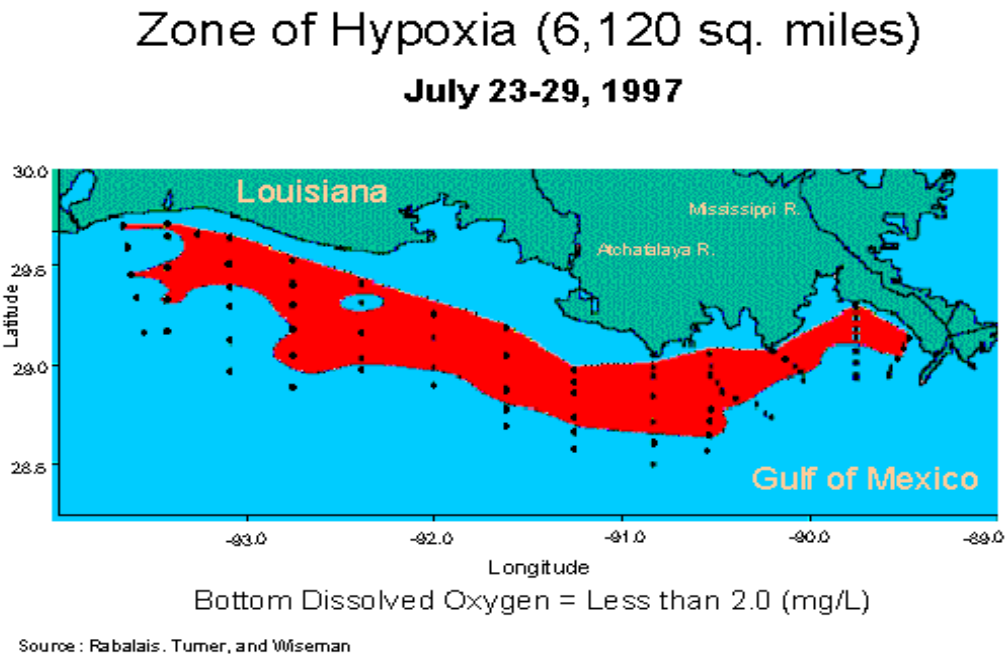
NOAA is requesting an increase of $1.4 million to support ecological monitoring and assessment of hypoxic conditions in the northern Gulf of Mexico. The increase will be used to;

- monitor hypoxia and the ecosystem properties in the northern Gulf of Mexico;
- improve the definition of the hypoxia zone's inshore boundary; and
- improve models of the relationship between nutrients, ecosystem response, management practices and water diversion changes on hypoxia.

The funding will allow NOAA to respond directly to heightened regional and national concerns about worsening water quality conditions in the northern Gulf of Mexico, and to the need to quantify the causes and effects of hypoxia.

The "dead zone"

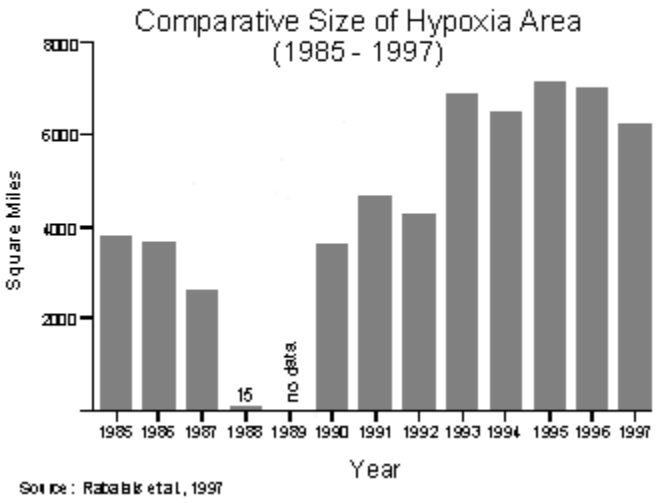
The Gulf of Mexico boasts almost half of the nation's coastal wetlands and supports approximately 40% of its fishery landings. However, these resources are currently at risk from a variety of threats including increasing areas of low oxygen levels and harmful algal blooms (HABs). Nutrient loadings from land based sources can "over-enrich" coastal ecosystems, often leading to adverse impacts. A common effect of this nutrient over-enrichment is excessive production of algae, which can kill benthic marine organisms by reducing the concentration of dissolved oxygen (hypoxia) in bottom waters. The nutrient loads are partly responsible for the increased size and frequency of hypoxia - the so-called "dead zone", as well as being likely candidates favoring the proliferation of HAB species. The dead zone has increased greatly in size since 1985, the first year it was mapped, and covered nearly 7,000 square miles during the summer of 1996.



Source : Rabalais, Turner, and Wiseman

NOAA's Approach

The NOAA strategy for Gulf of Mexico hypoxia research is based on the hypothesis that nutrient additions from the Mississippi River watershed contribute significantly to over-enrichment of Gulf waters and subsequent declines in water quality. To test this hypothesis, studies were carried out to determine the extent that algal production has been enhanced by the nutrient load, and the impact of that enhanced production on hypoxia. These studies focused on documenting, understanding, and modeling the extent, timing, causal factors, impacts, and history of hypoxia through retrospective analysis and new field and modeling studies. A computer model that predicts the response of algal growth and dissolved oxygen to potential changes in nutrient loadings was developed, tested, and made available to EPA's Gulf of Mexico Program to assist development of a nutrient reduction action plan.



More than one million tons of nutrients make their way into the Gulf of Mexico via the Mississippi River system each year. It is important to understand, predict, and assess the influence of this massive river load on hypoxia, regional fish kills, and the growing incidence of toxic "red tide" blooms along the Gulf Coast.

NOAA's role in the Federal Response to Hypoxia

In response to these research findings and concerns from constituent groups, the Gulf of Mexico Program held a conference in December 1995, to outline the issues and identify potential actions. Although a Federal response strategy is still in development, two tracks of action are being proposed which require considerable involvement of NOAA's coastal environmental quality research, monitoring, and assessment capabilities. The first is an ecosystem/watershed management tract that identifies near-term "win-win" actions in the basin to reduce excess nutrient loads. The second track is a scientific assessment of the causes and consequences of hypoxia to guide and refine nutrient reduction strategies, and to identify gaps in understanding. This effort, coordinated through the Committee on Environment and Natural Resources (CENR), and led by NOAA, addresses environmental changes in the system and develops the data and science-based tools needed to formulate water resource policies, improve ecosystem health, and protect valuable living resources and their habitats in the Mississippi watershed and Gulf of Mexico shelf area.

For Further Information Contact:
Brook Davis
Office of Legislative Affairs,
(202) 482-4981